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(54) Envelope pack and method of making it

(57) An envelope pack of weldable sheet plastics has a first face 10 and a second face 12 with an integral flap 14 carrying a strip of adhesive-carrying film 32. A sequence of such

packs is welded from plastics drawn from three reels viz. material for face 10, wider material for face 12 and flap 14, and narrow adhesive-carrying film 32. Welding closes the envelope at sides 24, 26, and forms hinge 28. The adhesive is such as to permit repeated opening and closure. The adhesive can be in discrete areas.

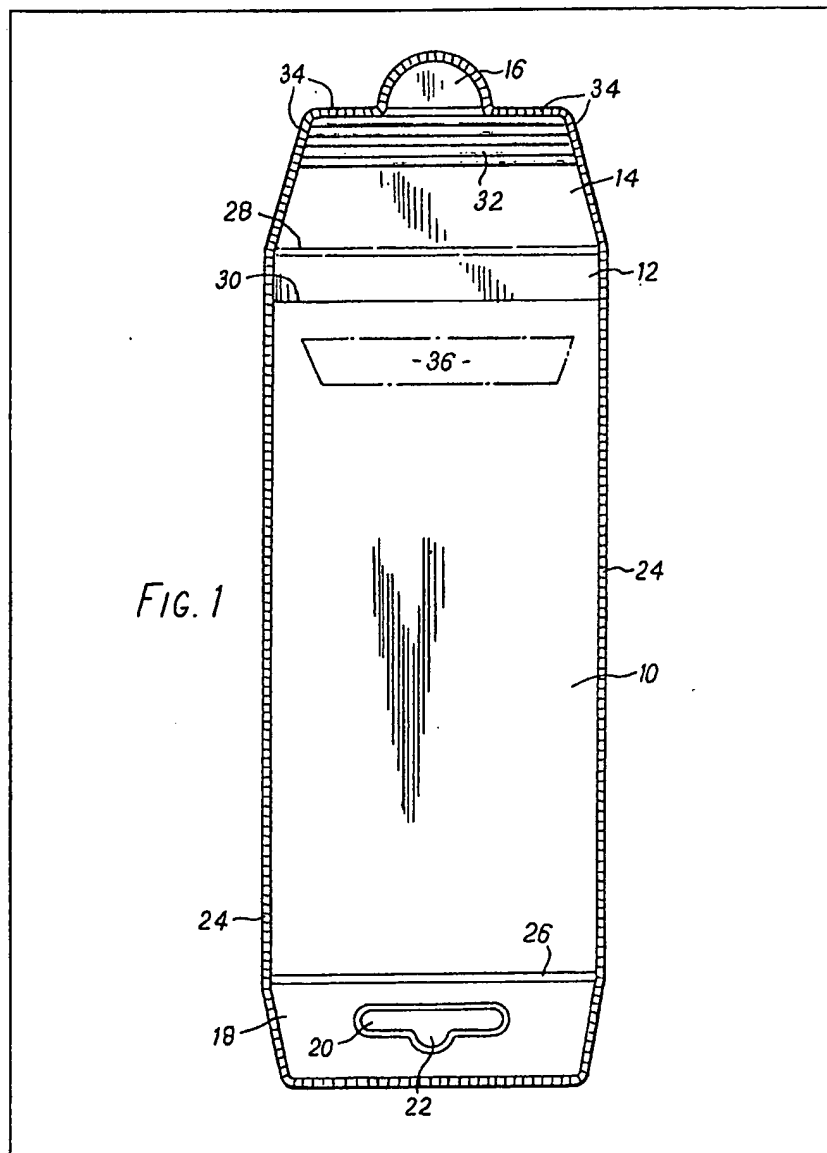
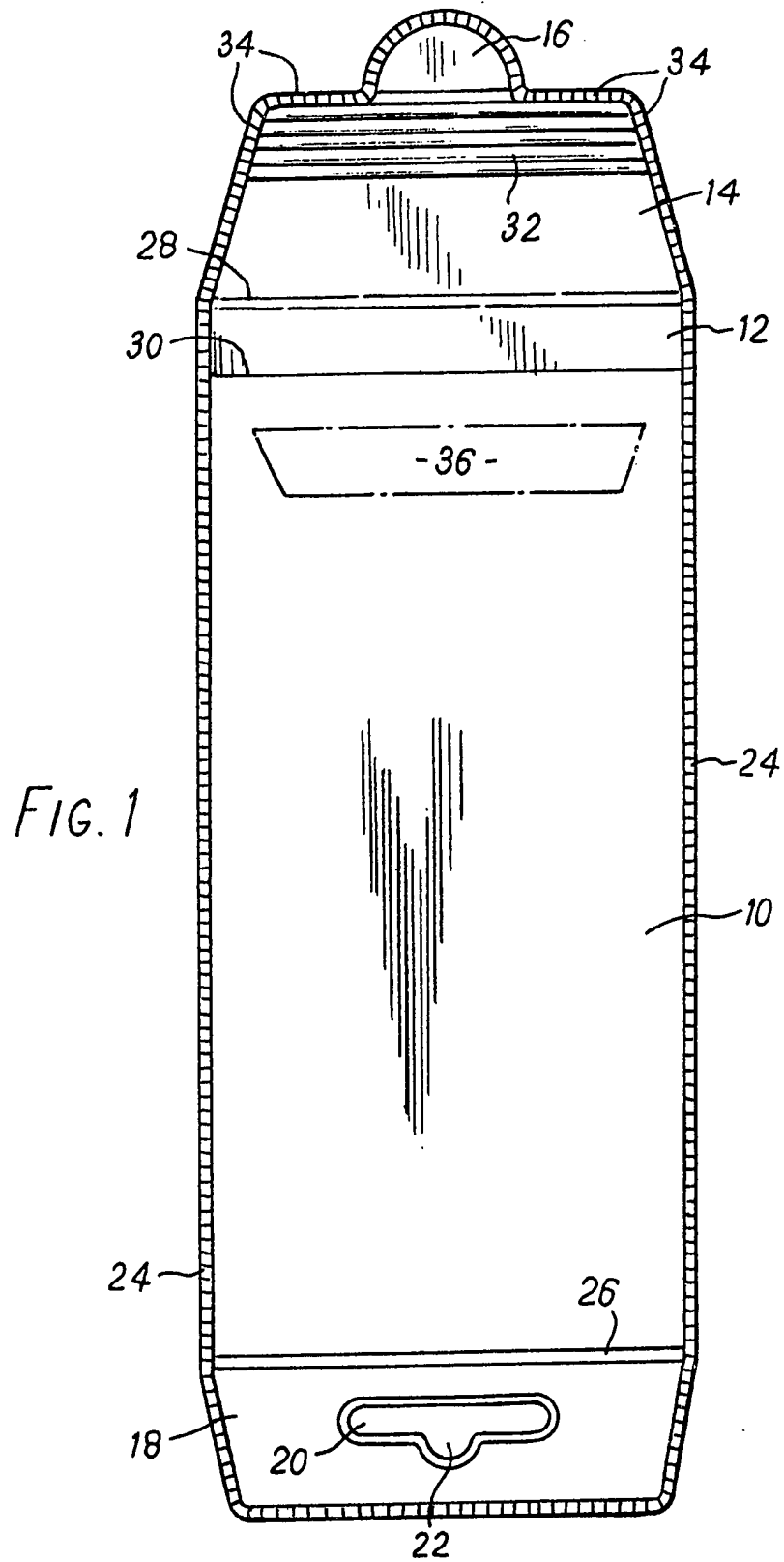
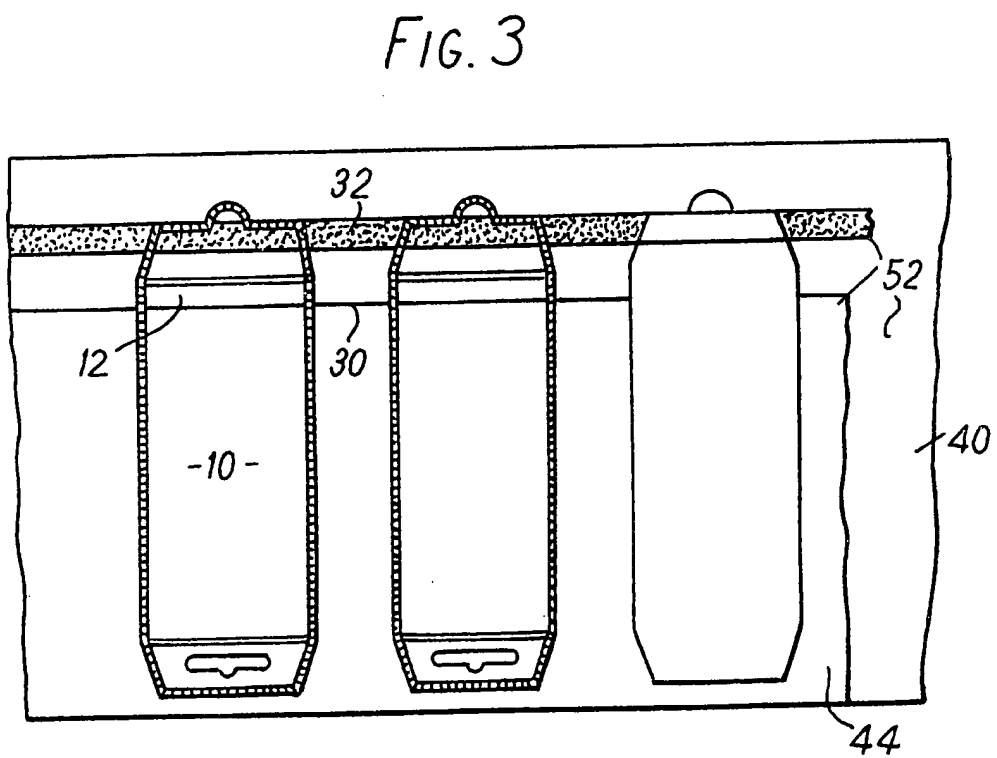
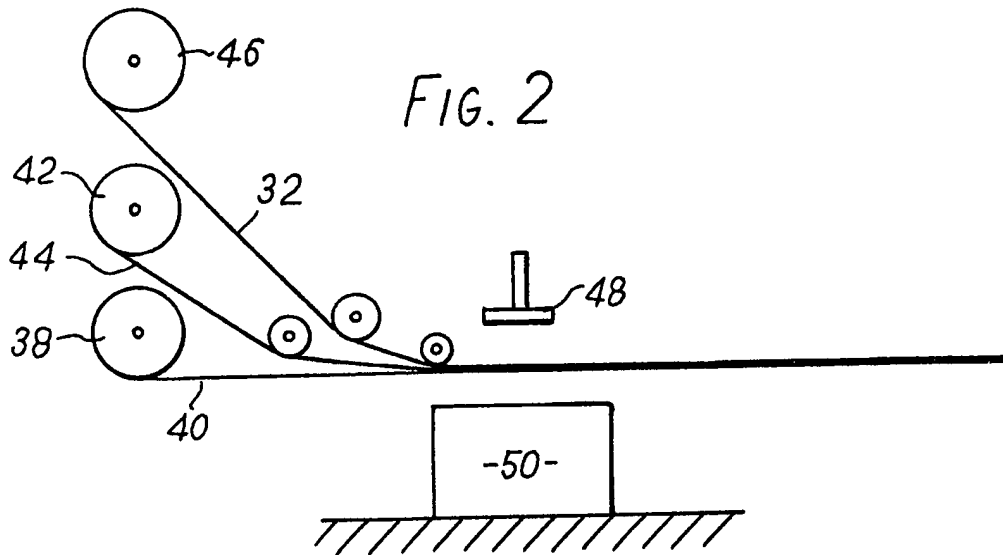


FIG. 1

GB 2 069 456 A





SPECIFICATION

Envelope pack and method of making it

This invention relates to an envelope pack of synthetic sheet plastics material and a method for making it.

Such packs are commonly used for the packaging of articles such e.g. as a set of coloured crayons. One such known pack has a closure flap that can be held closed by insertion under a transverse band. Also, transparent plastic envelopes are used for postal delivery, in which a flap is releasably adhered to a face of the envelope by a line of adhesive.

The invention has for its object to provide an improved envelope pack of sheet plastics in which the flap can be releasably adhered to a face of the envelope, and a method of making the pack.

According to a first aspect of the invention, such a pack has a first face, a second face, a closure flap adapted to overlie part of the first face to close the pack along one side of the pack, and an adhesive carrying strip; the two faces, the flap and the strip being of weldable sheet plastics material, the strip being so disposed on the flap or on the first face by welding thereto that when the flap is appressed to the first face the adhesive contacts the first face or the flap (as the case may be) and the adhesive being such as to permit repeated adhesion and disengagement of the flap and the first face. Such a pack is very convenient in use because of the ease with which it can be opened and closed.

The strip may be of a colour different from the colour(s) of the face(s) for the purpose of colour coding.

The adhesive on the strip may be covered by protective sheet release material (preferably siliconised release paper) for ease of filling the pack and for ease of handling prior to filling (the release material will usually be peeled off before the pack is closed).

The adhesive can be arranged in discrete areas on the strip for ease of opening of the pack and for localised adhesion; or it can extend over the entire area of the strip for more secure adhesion when the pack is closed.

The pack may have an elongation perforated by a hole (e.g. in the form of a notched slot) for suspending the pack (e.g. on display at the point of sale).

According to another aspect, the invention provides a method of making an envelope pack which comprises welding together in one welding operation sheets of plastics material and an adhesive carrying strip to form a first face and a second face with a flap, and the strip being so disposed on the flap or on the first face that when the flap is appressed to the first face, the adhesive contacts the first face or the flap (as the case may be). This provides an advantageous way of producing an envelope pack embodying the features of the first mentioned aspect of the invention.

Preferably the packs are made in sequence by

welding with a high frequency electrical welding die, from a first web of sheet material to form the first face, a second wider web of sheet material, and a web of adhesive carrying strip, all in the form of reels unwinding in the same direction and so aligned that an edge of the second web extends beyond an edge of the first web whereby the second web forms the second face of the pack and the flap and that the strip is positioned over the flap or over the first web so that when the flap is appressed to the first face the adhesive contacts the first face or the flap, and after welding separating the packs from each other and/or from any remainder of the web. Such method of operation is very economical.

Desirably the welding die is such as to leave tear seal welds around the edges of the packs, enabling the packs to be readily removed from any remainder of the webs. If the adhesive carrying strip is covered with release material in the form of release paper, this would either be cut between neighbouring packs, or peeled off at this stage.

One form of the invention will now be described by way of example with reference to the accompanying drawings in which:—

Fig. 1 is a plan view of an envelope pack suitable for holding pencil crayons,

Fig. 2 illustrates in outline the method of making such packs, and

Fig. 3 shows two of a sequence of packs prior to separation from webs of material during manufacture.

The envelope pack of Fig. 1 has a first face 10 which is uppermost as viewed in the drawing and which is backed by a second face 12. The second face has an extension integral with it which forms a flap 14, the latter including a tongue 16. Both faces have an elongation 18 remote from the flap and that elongation is perforated with a slot 20 having a notch 22 as shown. The two faces (and the extension and elongation) are made of weldable sheet synthetic plastics material, e.g. thin colourless transparent flexible PVC about 150 u or 200 u gauge.

The perimeter of the pack is stitch welded as shown. Along the two long sides 24 the stitch weld closes the pack. Along the short permanently closed side 26, the pack is closed by a bar weld. Another bar weld provides a hinge 28 between the second face 12 and the flap 14. The free edge of the first face 10 at the open side of the pack is designated 30.

A strip 32 of adhesive film extends transversely across the flap, at the end of the flap remote from the main parts of the pack and adjoining the tongue. The strip is of weldable synthetic plastics (e.g. vinyl of 100 u gauge) and is held to the flap by the stitch weld in the regions indicated by the numeral 34. The adhesive of the strip is contact adhesive and adheres to the first face 10 in the region 36 when the flap is folded about the hinge 28.

The materials are of course chosen so as to be compatible, and the adhesive is so chosen as to permit the flap to be repeatedly adhered to and

disengaged from the face 10 of the pack.

Turning to Fig. 2, there is shown a first reel 38 carrying a first web 40 of sheet material intended to form the second face 12 of the pack with its flap and elongation, a second reel 42 carrying a second web 44 to form the first face 10 with its elongation, and a third reel 46 carrying the strip 32. An appropriate length is drawn off from all three reels simultaneously, a die 48 is lowered and by high frequency electric welding through the two webs and the strip welds them together and more particularly simultaneously forms the two bar welds, the stitch weld along the perimeter, and the slot. The perimeter is a tear seal weld and the slot is "welded out". A welding table 50 serves as a support for the material drawn off from the reels and as a backing to co-operate with the die during welding.

In a band of packs coming away from the welding table in sequence after welding (see Fig. 3), there is a remainder or offcut 52 which is waste, i.e. so much of the first and second webs and of the strip as does not form part of the packs (the amount of offcut shown is exaggerated). Here the packs are separated manually from the offcut, by bursting of the tear seals and when necessary the slots 20 are also cleared. The free edge 30 of the second web of course constitutes the opening of the packs.

Normally, the adhesive strip will have a covering of siliconised release paper and this will remain with the offcut. Alternatively if the release paper is to remain with the packs, e.g. for ease of filling, they have to be cut, e.g. manually, upon separation of the packs from the offcut.

It will be appreciated that many modifications may be made to the packs and to their manner of manufacture described above, without departing from the scope of the invention. Thus, for example, the flap could be devoid of a tongue. The adhesive strip could extend over the full area of the flap to provide for increased adhesion. A pack could of course be made of materials other than PVC.

CLAIMS

1. An envelope pack having a first face, a second face, a closure flap adapted to overlie part of the first face to close the pack along one side of the pack, and an adhesive carrying strip; the two faces, the flap and the strip being of weldable sheet plastics material, the strip being so disposed on the flap or on the first face by welding thereto that when the flap is appressed to the first face the adhesive contacts the first face or the flap (as the

case may be) and the adhesive being such as to permit repeated adhesion and disengagement of the flap and the first face.

2. An envelope pack according to Claim 1 wherein the strip is of a colour different from the colour of at least one face.

3. An envelope pack according to Claim 1 or Claim 2 wherein the adhesive on the strip is covered by protective sheet release material.

4. An envelope pack according to any of the preceding claims wherein the adhesive is arranged in discrete areas on the strip.

5. An envelope pack according to any of the preceding claims wherein the pack has an elongation perforated by a hole for suspending the pack.

6. A method of making an envelope pack comprising welding together in one welding operation sheets of plastics material and an adhesive carrying strip to form a first face and a second face with a flap, and the strip being so disposed on the flap or on the first face that when the flap is appressed to the first face, the adhesive contacts the first face or the flap (as the case may be).

7. A method according to Claim 6 wherein the packs are made in sequence by welding with a high frequency welding die, from a first web of sheet material to form the first face, and a second wider web of sheet material, and a web of adhesive carrying strip, all in the form of reels unwinding in the same direction, and so aligned that an edge of the second web extends beyond an edge of the first web whereby the second web forms the second face of the pack and the flap and that the strip is positioned over the flap or over the first web so that when the flap is appressed to the first face the adhesive contacts the first face or the flap, and after welding separating the packs from each other and/or from any remainder of the web.

8. A method according to Claim 7 wherein the welding is carried out by a welding die which leaves tear seal welds around the edges of the packs to facilitate separating the packs as aforesaid.

9. A method of making an envelope pack from sheets of plastics material, substantially as hereinbefore described with reference to the accompanying drawings.

10. An envelope pack whenever made by the method as claimed in any of Claims 6 to 9.

11. An envelope pack substantially as shown in and hereinbefore described with reference to Fig. 1 of the accompanying drawings.